

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A reproducible vapor phase growth method for growing an epitaxial layer on[[a]]semiconductor-substrate substrates of a single crystal, comprising:
measuring a resistivity of arbitrary semiconductor substrates at a room temperature;
obtaining respectively a relationship between a heating temperature and a temperature of a surface of the arbitrary semiconductor substrates, for the arbitrary semiconductor substrates having different resistivities, the relationship depending on different cutting positions of the single crystal;

setting and adjusting said heating temperature of a semiconductor substrate to be used based on (i) a measured resistivity of the semiconductor substrate to be used and (ii) the obtained relationship between the heating temperature and the temperature of the surface of said semiconductor substrate; and

growing the epitaxial layer, wherein the temperature of said surface of said semiconductor substrate to be used is indirectly controlled by adjusting said heating temperature.

2. (Original) The vapor phase growth method as claimed in claim 1, wherein the semiconductor substrate is a compound semiconductor.

3. (Original) The vapor phase growth method as claimed in claim 2, wherein the semiconductor substrate is an InP substrate.

4. (Original) The vapor phase growth method as claimed in claim 3, wherein the semiconductor substrate is an Fe-doped InP substrate.

5. (Original) The vapor phase growth method as claimed in any of claims 1 to 4, wherein a molecular beam epitaxy is used to grow an epitaxial layer.